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ENVIRONMENTAL PROTECTION AGENCY

REGION II

OCEAN FACT SHEET PACKAGE

October, 1988.

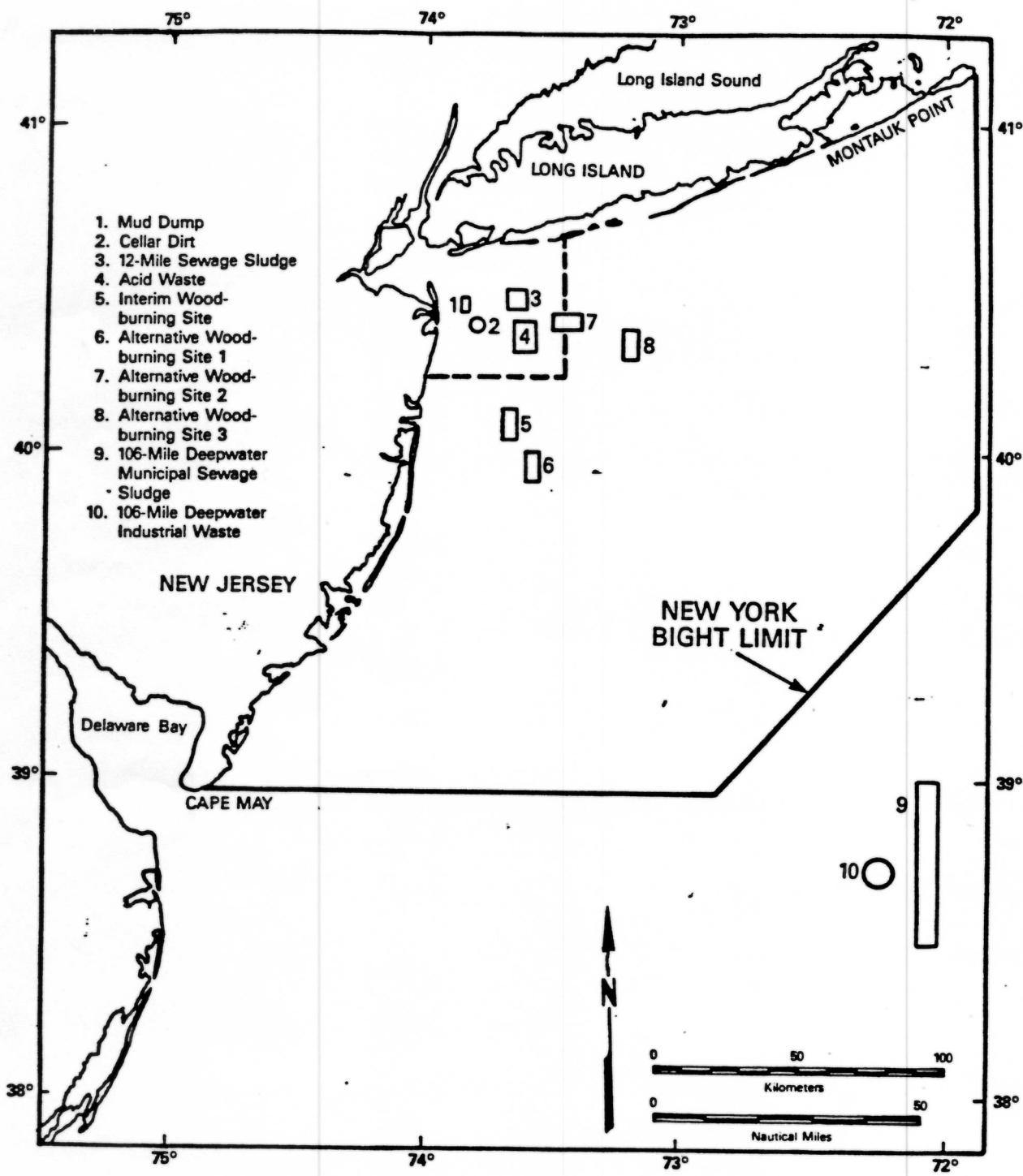
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DOUGLAS A. PARKS
MAY 1982

Edition II

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Ocean Disposal Sites in the New York Bight

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- SITE LOCATION:
 - > 15 nautical miles south of Long Beach, Long Island.
 - > 15 nautical miles east of Long Branch, New Jersey.
- SITE SIZE:
 - Area: 12 sq. nautical miles.
 - Water depth: Ranges from 75-95 feet.
- HISTORY:
 - > First used in 1948.
 - > Final designation in June, 1983
 - > Designated for continuing use. No expiration date.
- TYPE OF WASTE DUMPED:
 - By-product hydrochloric acid waste, generated in the manufacture of Gentron 22 fluorocarbon, which is similar to freon.
- PERMITTEE & PERMIT STATUS:
 - ALLIED CORPORATION. (Ocean Dumping Permit No. II-NJ-004)
 - > Effective Date: October 1, 1985
 - > Expiration Date: September 30, 1988
 - > Submitted reapplication on: April 3, 1988
 - > Tentative determination: In preparation
 - > Public hearing to be held: December, 1988
- VOLUME DUMPED:
 - VOLUME DUMPED IN 1986: 33,800 wet tons
 - VOLUME DUMPED IN 1987: 32,600 wet tons
 - VOLUME DUMPED Jan-March 31, 1988: 11,200 wet tons
 - > The volumes fluctuate depending upon sales.
- ENVIRONMENTAL IMPACTS:
 - > The cumulative effects of past dumping have not been demonstrated.
 - > Monitoring consists of physical and chemical oceanographic monitoring, 4 times a year; waste dispersion studies; and laboratory toxicity studies.
 - > In light of new technology, the discharged material is now being tested utilising procedures commensurate with testing of other liquid effluents, rather than dredged material.
 - > New testing indicates that a significant decrease in the amount of material discharged per disposal operation will be necessary to preclude adverse impacts to the marine environment.
 - > Biological testing has also resulted in identifying the need to significantly decrease the discharge rate to allow for dispersion that achieves adequate water quality parameters subsequent to the initial mixing period.
 - > Short term increase in acidity.
 - > Short term adverse affects on plankton.
 - > Minimal effects on ocean-floor organisms. Waste does not appear to be toxic to bottom-dwelling organisms.
 - > Biomass and species diversity are comparable to other areas in the New York Bight.
 - > No conflict between the dumping and commercial/recreational fishing activities.
 - > No impact on beaches.
 - > No known public health effects.
- POTENTIAL ALTERNATIVES:
 - > Practicable alternatives that do not involve ocean disposal have been identified and will be implemented by 1991.

- SITE LOCATION: Approx. 125 nautical miles southeast of Ambrose Light, NY, and 105 nautical miles from Atlantic City, NJ - the nearest coastline.
- SITE SIZE: Area: Approx. 30 sq. nautical miles.
Water depth: Ranges from 6000 to 9000 feet.
- SITE HISTORY:
 - > The site has been used since 1961 for the ocean dumping of industrial wastes.
 - > The site was part of the previously interim-designated 106-Mile Ocean Waste Dump Site. In 1984 EPA designated two disposal sites within the area: one for sludge dumping, the other for aqueous industrial wastes.
 - > Designated for continuing use. No expiration date.
- TYPE OF WASTE DUMPED:
 - > Formerly, acid alkali and other industrial wastes. No current dumping takes place.
- PERMITTEE & PERMIT STATUS
 - > No current permittees.
 - > E.I. du Pont De Nemars and Co. Grasselli Plant of Linden, NJ held a Special Permit, issued Feb. 7, 1985; expired Dec 31, 1986. Grasselli had applied for a new permit, but withdrew the application based on new production information which indicated a lack of need to ocean dump.
 - > Du Pont, Edge Moor Plant of Edge Moor, DE, also held a Special Permit, issued November 30., 1984, expired June 30, 1987. Edge Moor had applied for a new permit; EPA made a tentative determination to issue the permit, however, Edge Moor withdrew the application based on new information which indicated a lack of need to ocean dump.
 - > EPA will pursue de-designation of the site.
- VOLUME:

VOLUME DUMPED, 1985-1987	PROPOSED VOLUMES TO BE DUMPED
<ul style="list-style-type: none">> 1985: No dumping> 1986: 140,133 wet tons> 1987: 27,980 wet tons> This kind of dumping was extremely erratic, depending on sales market ability.> The amount of waste to be barged was reduced by almost 93% from 1973 up to the cessation of dumping in 1987.	<ul style="list-style-type: none">> 1988 - 135,000 wet tons> 1989 - 135,000 wet tons
- ENVIRONMENTAL IMPACTS
 - > In-site monitoring has revealed no observable biological or physiochemical effects.
 - > No significant long-term impacts detected.
 - > No bioaccumulation detected.
 - > No impact on beaches.
 - > No known public health effects.

- SITE LOCATION: 120 nautical miles southeast of the NY harbor; 115 nautical miles from Atlantic City, NJ.
- SITE SIZE:
 - > Area: 100 sq. nautical miles.
 - > Water depth: Ranges from 6,000 - 9,000 feet.
- HISTORY:
 - > The site was part of the previously interim-designated 106-Mile Ocean Waste Dump Site. In 1984, EPA designated two disposal sites within the area: one for sludge dumping, and one for aqueous industrial wastes.
 - > The site has been used since 1961 for the dumping of industrial wastes; and, since 1973, for the disposal of digestor cleanout sludges.
 - > The site was designated in 1984 for a 5 year period, which began March, 1986.
 - > Scheduled expiration date: March, 1991.
 - > EPA restricted the disposal of sludge to a 5 year period, during which time further studies would be conducted on the environmental impacts of such dumping.
- TYPE OF WASTE DUMPED: Municipal sludge.
- PERMITTEES & PERMITS STATUS:
 - Westchester County, Nassau County, New York City, Passaic Valley Bergen County, Middlesex County, Rahway Valley, Joint Meeting of Essex and Union Counties, and Linden Roselle.
 - > All nine sludge dumpers have submitted new permit applications for the site. EPA is currently reviewing them.
 - > As of Dec 31, 1987, 100% of the sludge is dumped at the deep-water site.
 - > Congress has approved legislation to ban the ocean dumping of sludge after December 31, 1991, impose special fees for ocean disposal of sludge during a three year phase-out period, and establish a schedule of escalating fines for municipal authorities that continue dumping after the deadline.
- VOLUMES DUMPED:
 - > Up until 1985 all sludge was dumped at the 12-Mile Site.
 - >

<u>Total Sludge Dumped:</u>	<u>1986</u>	<u>1987</u>
- 12-Mile Site:	6,639,000 wet tons,	3,977,862 wet tons
- Deepwater Site:	1,561,000 wet tons.	4,448,522 wet tons
- Total:	8,200,000 wet tons	8,426,385 wet tons
- ENVIRONMENTAL IMPACTS:
 - > Impacts are minimal, due to dilution and dispersal of sludge, and to deeper water, more active currents, lower fish and shellfish populations.
 - > Use of site is not expected to interfere with biological or physical resources.
 - > The site is located far from shore, so the likelihood of dumped waste ever reaching the shore is extremely remote.
 - > Short term impacts on water quality, plankton and other marine life, within the dump site.
 - > No floatables permitted in sludge.

- SITE LOCATION: 10. 3 nautical miles east of Sandy Hook, N.J. and 9.9. nautical miles south of Long Island.
- SITE SIZE: Area: 6.6 square nautical miles.
Depth: 80 feet.
- HISTORY:
 - > The site has been in use since 1914.
 - > In 1981 there were 2 lawsuits (NY and NJ). The Consent Order allowed disposal of sludge at the site, until EPA acted on a petition to redesignate.
 - > The final denial to redesignate this site was in April, 1985
 - > As of December 31, 1987, the 12-Mile Site has been phased-out. 8100 of sludge dumping now occurs at the Deepwater Municipal Sludge Dump Site.
 - > Phase-out of site began in March, 1986.
- TYPE OF WASTE DUMPED: Municipal sludge.
- PERMITTEES & PERMIT STATUS:
 - > Westchester County, Nassau County, New York City, Passaic Valley, Bergen County, Middlesex County, Rahway Valley, Joint Meeting of Essex and Union Counties, and Linden Roselle.
 - > For Permit Status see FACT SHEET # 5: Phase-Out Of 12-Mile Site.
- VOLUMES DUMPED:
 - > Between 1973-1987: 90,007,510 wet tons were dumped.
 - > Approx. 8 million per year.
- ENVIRONMENTAL IMPACTS:
 - > Elevated levels of bacteria.
 - > Elevated levels of toxic metals in bottom sediment.
 - > Changes in marine life diversity and abundance.

- > April 1, 1985: EPA denied the sludge dumpers' requests for continued use of 12-Mile Site. As of Dec 31, 1987, all dumping at 12-Mile site ceased.
- > All nine N.Y. and N.J. dumpers are did adhere to the phase-out schedule.
- > Westchester & Nassau Counties began dumping 100% of their sludges at the Deepwater Site in March, 1986 and June, 1986 respectively.
- > NYC started dumping 10% of its sludge at the Deepwater Municipal Sewage Dump Site in April, 1986. In June, 1987, NYC dumped 40%. NYC was dumping 75% in Aug. 31, 1987, and 100% by Nov., 1987.
- > The six N.J. authorities were required to dump 25% of their total net volume of sludge at the Deepwater Site, beginning in May, 1986. As of May, 1987 they had only dumped 16% at the Deepwater Site. In June they were up to 43%. In July, 60% went to the Deepwater Site. By Dec 31st, 100% of their sludge was dumped at the Deepwater site.

- SITE LOCATION: 5.3 nautical miles east of Sandy Hook, NJ.
4.6 nautical miles south of Rockaway, Long Island
- SITE SIZE: > Area: 2.2 sq. nautical miles.
> Water depth: Ranges from 50-80 feet.
- HISTORY: > The site has been in use since 1914.
> It was officially designated on May 4, 1984.
> The site was redesignated in May, 1984. Disposal is limited to 100 million cubic yards, because of navigational concerns. After 100 million cubic yards are dumped, the site will be relocated.
> Passage of the HR6 (Water Resource Development Act of 1986):
 - There is a requirement for EPA to designate a new Mud Dump Site no closer than 20 miles from shore, within 3 years.
 - Site investigations have begun. EPA's consultant has given the agency a zone of siting feasibility, for EPA review. We plan to conduct trend assessment/baseline surveys of areas chosen as potential sites next February and July.
- TYPE OF WASTE DUMPED: Dredged material from New York Harbor, channel deepening and maintenance projects.
- PERMITTEES: > Federal and private permittees. Most material is the result of Federal projects.
> EPA is authorized to administer the National Ocean Dumping Program, and to issue permits regulating the dumping of all waste materials, except dredged materials.
> Dredged material ocean dumping permits are issued by the COE, but are consistent with EPA's Ocean Dumping Regulations and Criteria.
- VOLUME: > From 1973 to 1982, an average of 8.1 million cubic yards per year was dumped. Since 1983 approx. 6 million cubic yards per year have been dumped.
- ENVIRONMENTAL IMPACTS: > Burial of benthic organisms in dump site.
> Reduced dissolved oxygen levels in dump site.
> Reduced Fish/Shellfish in dump site.
> Elevated toxic compounds, PCB's, and bacteria in dump site.
-These contaminants, however, do not migrate from the site. Most contaminants found in dredged material bind with the sediments, therefore minimizing their exposure.
> No impacts outside site.
> No public health effects.
- COE PLAN FOR DREDGE DISPOSAL: > COE is preparing a Management Plan for Dredged Material Disposal. The plan was initiated in 1980 and was originally scheduled to be completed within 5 years. However the COE is continuing to do additional studies. The purpose of the study is to identify technically feasible and acceptable disposal sites. Alternatives include subaqueous burrowpits, containment islands, beach nourishment, wetland stabilization, or containment areas, and sanitary landfill cover.

- SITE LOCATION: 6.6 nautical miles off the New Jersey coast.
11.7 nautical miles from Long Island.
- SITE SIZE: Area: 1.1 nautical miles.
Water depth: Ranges from 90-100 feet.
- HISTORY: > The site has been in use since 1940.
> EPA designated it as an interim site in 1973.
> Final designation: 1983.
> The site is designated for continuing use. No expiration date.
- TYPE OF WASTE DUMPED: Construction site debris: Concrete, excavation dirt, rubble, and rock.
- PERMITTEE & PERMIT STATUS: > EPA issued an ocean dumping permit on Nov 12, 1986 to Port Liberte Partners, for the disposal of 400,000 cubic yards of excavation dirt.
> As of June, 1988 no material has been dumped at this site.
- VOLUME DUMPED: > Amounts vary from year to year.
> Amount dumped between 1973-1980 averaged 372,000 cubic yards per year.
> Over 1981-84, no dumping occurred at the site.
> In 1985, NYC dumped approx. 50,000 cubic yards of material.
> In 1986 and 1987, no material was dumped.
> In 1988, NYC dumped approx. 15,300 cubic yards.
> Amounts have generally decreased over the years.
- ENVIRONMENTAL IMPACTS: > Topographical modification.
> The site is devoid of benthic infauna.
> Distribution of marine life outside the site boundaries is apparently unaffected by disposal.
> No impact on beaches.
> No public health impacts.

- SITE LOCATION:
 - > The interim woodburning site is located 17 nautical miles east of Point Pleasant, NJ.
 - > Three alternative sites have been identified and are currently being evaluated, using site selection criteria developed by EPA/COE. A draft Environmental Impact Statement and proposed rule for the designation of a woodburning site are currently being prepared. Final designation is targeted for the end of 1988
- SITE SIZE: 12.5 nautical miles.
- HISTORY: The site has been in use since the mid 1960s.
- TYPE OF WASTE BURNED: Driftwood, timbers, pilings, and similar materials from deteriorated waterfront structures.
- PERMITTEES & PERMIT STATYES:
 - > Weeks Stevedoring Co. and NYC were issued one year interim permits in March, 1986; effective April 25, 1988.
 - > EPA has made a tentative determination to issue a one year interim permit to the COE. A public hearing was held on May 31, 1988, at the Point Pleasant Beach Town Hall in Point Pleasant Beach, NJ.
- VOLUMES BURNED:
 - > Between 1973-1987: approx. 400,000 tons of wood burned.
 - > Annual average over the last 3 years: Approx. 49,000 tons.
 - > Volumes burned, 1988, as of October 24: 9100 tons.
 - > Maximum amount which may be burned by all permittees: 119,000 tons.
 - > If the permittee can demonstrate offshore wind direction for total duration of burn, the material burned won't contribute to annual cap.
 - > Maximum tonnage per burn: 3,500 tons.
 - > Waste volumes include a total cap of 119,000 tons per year, but also with volume limitations for each project: no more than 3500 tons of material shall be burned at the site at any given time.
- SURVEILLANCE:
 - > All burn barges must be equipped with 8-foot high stancions and fences to prevent wood from falling off the side enroute to the burn site.
 - > Barge transit must be conducted during daylight hours, and a trailing vessel must provide 24 hour a day surveillance from the time the barge leaves the port until it returns. The trailing vessel retrieves any wood which enters the water.
 - > In Jan, 1987, DEP became authorized to participate in surveillance of woodburning operations.
 - > An independent ship rider approved by EPA is required on each woodburning operation.
 - > No burning shall be permitted between May 29, 1988, and September 5, 1988.
 - > EPA must inspect each barge prior to burning.

- > Waste characterization for specific projects must be completed prior to initiation of burns.
- > Catastrophic Discharge Retrieval Plans have been submitted by Weeks Stevedoring, Co., and COE. These plans have been approved by EPA.

IMPACTS:

- > At-sea monitoring during an actual burn event has included air analyses, water analyses, and ash residue analyses.
- > Total suspended particulates, carbon monoxide, and creosote concentrations do not exceed Air Quality Standards.
- > Visual impact is limited: The aesthetic effect of the plume is short term and of small magnitude.
- > No adverse water quality impacts.
- > No impact on marine mammals.
- > No significant impact on commercial/recreational fishing.
- > Residual ash & non combustable material are land disposed.
No material is dumped into the ocean.

(Surveillance is often confused with Monitoring. Monitoring is the collection and analysis of water and sediment samples to check water quality, biological impacts, etc, which is carried out by the permittee, EPA, and NOAA. Surveillance is the supervision of dumping operations, making sure that permittees fulfill permit requirements, i.e. notification of dump, volume of dump, location of dump, etc.)

SURVEILLANCE

- EPA'S RESPONSIBILITIES:

- > To establish and apply surveillance criteria for reviewing and evaluating permit applications for all wastes, except dredged material. The COE issues dredged material permits; however, EPA does have "veto" power.
- > To designate ocean dumping site.

- NOAA'S RESPONSIBILITIES:

- > Research, monitoring, protection and designation of marine sanctuaries.

- COAST GUARD'S RESPONSIBILITIES:

- > The Coast Guard carries out the actual surveillance operations.
- > The Coast Guard takes phone notification of dump/burn vessels and provides a reference number. This process includes screening the information given, and denying numbers to improper dumpers/vessels. If any reference numbers are denied, EPA is notified by phone. Copies of the log and the overlays are provided by the Coast Guard to EPA each week.
- > All track overlays, statements, and radio notifications, concerning all dump/burn vessels are forwarded to EPA by the waste transporters.
- > As of June 1, 1988, eleven sludge barges were outfitted with the Ocean Dumping Surveillance System (ODSS). Barges not outfitted with ODSSS are not permitted to dump sludge. Additional ODSS units are expected to become available for installation (See Fact Sheet # 16)
- > The Coast Guard will provide investigation and/or platforms to assist EPA in collecting evidence particular to a specific incident. The Coast Guard will investigate a particular situation, or conduct preventative pre-departure boardings, upon EPA request.

- MPRSA - Governs the ocean disposal of waste into the ocean from the shoreline.
 - > Civil Penalties: \$50,000 per violation per day; each day of a continuing violation is a new penalty of up to \$50,000.
 - > Criminal Penalties: \$50,000 per violation and/or up to 1 year in jail.
- RIVER AND HARBORS ACT OF 1899 - Governs the discharge or deposit of refuse from ships, barges, shores, mills, manufacturing establishments, etc, into navigable waters.
 - > Civil Penalties: \$500 - \$2000 and/or imprisonment from 30 days to 1 year.
- CLEAN WATER ACT - Applies to U.S. waters within the 3-mile limit when a ship is regarded as a point source. The dumping of garbage from a ship is considered a violation.
 - > Civil Penalties:
 - Class I (Administrative) - Not to exceed \$10,000 per violation.
Maximum: \$125,000 (With an informal hearing.)
 - Class II (Administrative) - Not to exceed \$10,000 per violation per day.
Maximum: \$125,000 (With a more formal hearing.)
 - Judicial: - \$25,000 per violation per day.
Maximum: Unlimited.
 - > Criminal:
 - Negligence - \$2500 - \$25,000 per day per violation and/or imprisonment up to 1 year. If second offence, penalty and prison term are doubled.
 - Knowing violation - \$5000 - \$50,000 per day per violation and/or imprisonment up to 3 years; if second offence, penalty and prison term are doubled.
 - Knowing endangerment - Not more than \$250,000 and/or imprisonment up to 15 years. If second offence, penalty and prison term are doubled.
 - Knowing endangerment by a corporation or organization - Not more than \$1 million. If second offence, double.

- Brown Tide first appeared in the Peconic Bay System and in Great South Bay, Long Island; and in Narragansett Bay, Rhode Island, in the summer of 1985.
- The Brown Tide organism was first identified in 1985, from a water sample taken from Narragansett Bay, by scientists from the University of Rhode Island. It is a previously unknown one cell golden brown algae (chrysophyte) which was given the name Auerococcus anophagefferens.
- The Brown Tide bloom has reoccurred in the Peconic Bay System and to a lesser extent in Great South Bay in both 1986 and 1987. It has not, however, reappeared in Narragansett Bay.
- The Brown Tide has had the following impacts on the bays:
 - Shellfish
 - Bay Scallops - total destruction of the Peconic Bay stock between 1985 - 1986; it went from a \$2 million a year industry, to one with total landings of 349 pounds in 1987;
 - Oysters - total destruction of the Peconic stock in 1985;
 - Blue Mussels - 95% mortality in Narragansett Bay, in 1985;
 - and
 - Hard Clams - little impact.
 - Eelgrass
 - Increased light attenuation as a result of the Brown Tide blooms of 1985 - 1987 have caused reduction the coverage of eelgrasses.
 - Up to 16,000 acres of Peconic Bay which could support eelgrass currently does not; one area near Shelter Island showed a density reduction from 1800 shoots/m² to 200 shoots/m², in 1986.
- In August 1987 the Suffolk Co. Legislature convened the Brown Tide Task Force. The Task Force is comprised of representatives of the following agencies and institutions: Suffolk Co. Legislature; Suffolk Co. Dept. of Health Services; L.I. Regional Planning Board; SUNY-MSRSC; NYSDEC; NYSDOS; NY Sea Grant; EPA; and the CAC Chairman.
- The Suffolk County Department of Health Services as the lead agency has sponsored: brown tide related research; weekly monitoring of the Bay; and the 24 month "Brown Tide Comprehensive Assessment and Management Program".
- Total budget for the Brown Tide program is as follows:
 - \$250,000 - appropriated by the Suffolk Co. Legislature
 - \$100,000 - NYSDEC FY-88 205(j) (promise another 100,000 in FY-89)
 - \$ 30,000 - EPA funding to ORD/ERL-Narragansett for research
 - \$400,000 - Suffolk Co. Dept. of Health Services in kind services (approximately)

- ODSS is an electronic surveillance system that will provide the identification, location, and dumping status of all the vessels and barges engaged in dumping operations in the NY/NJ area.
- ODSS was developed by the U.S. Coast Guard's Office of Research and Development in Groton, Connecticut.
- The vessel installation consists of an electronic package (Black Box), pressure sensors mounted through the hull to monitor vessel draft, and two antennas. The Black Box consists of a Loran receiver to determine vessel location, circuitry to read the draft sensors and Loran and store these readings, a communications package and a battery backup.
- The Coast Guard reports that ODSS is performing satisfactorily.
- All of the vessels transporting sludge to the 106-Mile Site have been outfitted with the ODSS unit.
- The Coast Guard fabricated the devices themselves, and installed them on the sludge barges. The Coast Guard is responsible for maintaining the units.
- All ODSS or "Black Box" printouts are forwarded by the Coast Guard to EPA for evaluation.

FACT SHEET #14 Ocean Monitoring Program

#14

- EPA's ocean monitoring program is entering its 16th season. The monitoring is carried out by utilizing two vessels, the Clean Waters and the Anderson, and a helicopter.
- The two vessels are used for virus surveys, sediment sampling for organics, heavy metals analysis and benthic organisms for species diversity and numbers, and water quality work.
- Ocean waters are sampled from Sandy Hook to Cape May, N.J. and from Breezy Point to Shinnecock and along Long Island.
- Water quality is monitored six days per week throughout the summer for dissolved oxygen, salinity, nutrients, temperature, fecal coliforms, enterococci bacteria and phytoplankton. Approximately 140 stations are sampled weekly. In addition, visual observations are made for floating debris and phytoplankton blooms.
- Monitoring data is shared with other federal state and local officials to make decisions regarding public health and welfare.

• HOW MANY DOLPHINS, WHEN, AND WHERE

- > Since July, 1987, approximately 200 Bottle-nose dolphins have washed ashore along the coast from New Jersey to Virginia. About 75 of the the dolphins have been found in New Jersey.
- > In a typical year, about 12 dead dolphins would be found in these waters.

• SYMPTOMS

- > The dead dolphins that have been found had symptoms of severe skin lesions, and fluid in the lungs. The dolphins from the Chesapeake Bay area appeared to be more emaciated than those found in New Jersey.

• WHO IS LOOKING INTO IT

- > The National Marine Fisheries Service, the U.S. Department of Agriculture National Veterinary Service Laboratory in Iowa, the Marine Mammal Stranding Center, the Smithsonian Institute and EPA have been examining the animals. EPA contact is Romona Haebler from the Environmental Research Laboratory in Narragansett, RI.
- > An expert in wildlife disease from the University of Guelph in Ontario, Canada, is heading a team of more than a dozen scientists, assembled by NOAA.

• DOLPHINS KILLED BY COMMON BACTERIA

- > On August 19, NMFS announced that a common bacteria usually found in the dolphins is killing them. However, researchers are continuing their investigations for something that may be weakening the dolphins and causing the bacteria to kill them.

• RESEARCH EFFORTS

- > The researchers are examining naturally occurring toxins, such as those produced by algae, or man-made pollutants as possible causes.
- > A report describing the results of the research will be prepared.

• NO CONNECTION WITH OCEAN GARBAGE WASHUPS

- > There is no evidence linking the dolphin deaths to the recent instances of ocean pollution or ocean dumping.

New York Bight Monitoring Program Observations, 1988SamplingObservations

May 24 NJ Beaches - Sandy Hook
to Island Beach State Park

Floatables Incident

Small quantities of floatables observed 1 mile off Manasquan Inlet (primarily plastics and paper). Water was greenish-brown along Long Beach Island with some dispersed floatables. Green water observed along Island Beach State Park and Seaside. Possible green tide. Red tide in Raritan Bay and Sandy Hook Bay. Large garbage slick near Bayonne and the mouth of Newark Bay. Garbage slick just south of the Statue of Liberty. Another slick observed coming out of Jamaica Bay.

May 26 LI Beaches - Rockaway to Smith Point County Park.

May 27 NJ Perpendiculars - JC 14,
27, MAS, 41, 53

May 30 NJ Coast - Observations
made by NJDEP

Heavy dark brown algal bloom along the entire NJ coast caused by Ceratulina pelagica. Ceratium tripos (the organism responsible for the 1976 anoxia event) was found in phytoplankton samples collected on this date.

May 31 LI Beaches - Rockaway to Smith Point County Park

Sampling

June 2 NY Bight - NYB 20-27,
32-35, 40-47

EPA Observation Flight

June 3-4 *****
Episodic Event - Blood
vials found on NJ
beaches

June 7 NJ Perpendiculars - JC 14,
27, 41, 53

June 8 NJ Beaches - Sandy Hook to
Cape May

June 10 NJ Perpendiculars - JC 61,
69, 75, 85

June 13 NJ Perpendiculars - JC 14,
27, MAS, 41, 53

Observations

A number of slicks were observed, ranging in length from a few feet in the Arthur Kill and Kill Van Kull, to perhaps a mile, just south of the Verrazano Narrows Bridge. The slicks were composed of plastics, paper, and other debris mixed in with marsh grass.

Four vials containing blood were found on the beach at the northern end of Island Beach State Park. One vial of blood was found on Ortley Beach.

Heavy red tide in Raritan Bay.
No floatables observed.
Water looked clean.

Water was calm and looked clean.
Red tide in Raritan Bay caused by Olisthodiscus luteus.

Water clean.

Water calm and clear.

Very low dissolved oxygen concentrations were found 1 mile off Long Branch, Manasquan, Point Pleasant, and Seaside Heights. Low dissolved oxygen is not typical for this time of year and was possibly due to the die-off and decay of the tremendous algal bloom off the NJ coast reported on May 30.

Sampling

June 14 LI Beaches - Rockaway
to Shinnecock Inlet

Episodic Event - Blood
vials found on NJ
beaches test positive
for AIDS virus

June 15 NJ beaches - Sandy Hook to
Cape May

June 16 NJ Perpendiculars - JC 14,
27, MAS, 41, 53

June 17 NJ Perpendiculars - JC 61,
69, 75, 85

June 19 *****
Episodic Event - Woman
steps on syringe on
NJ beach

Observations

Water along the Long Island
coast, except Shinnecock
Inlet, looked dirty brown.
Brown water with various
floatables, mostly plastics,
at Great South Beach and
Cherry Grove.

One of the blood vials found
on Island Beach State Park on
June 3, and the one vial found
on Ortley beach June 4, were
found to contain antibodies
for the AIDS virus.

Red tide and numerous garbage
slicks in Raritan Bay. Red
tide in Delaware Bay. Both
blooms were dominated by
Olisthodiscus luteus.

Raritan Bay had red tide and
garbage slicks. No floatables
from Sandy Hook to Seaside.
Water looked murky.

Very low dissolved oxygen
concentrations recorded 1
mile off Long Branch and
Seaside Heights.

Water looked slightly murky.
No floatables were observed.

A Pennsylvania woman stepped on a
syringe in Manahawkin. She was
treated at Southern Ocean County
Hospital where she received a
tetanus shot.

<u>Sampling</u>	<u>Observations</u>
June 22 NJ Beaches - Sandy Hook to Cape May	Red and brown tide observed in Raritan Bay. Some floatables near Sandy Hook. Red tide present in Delaware Bay. No floatables observed south of Sandy Hook. Porpoises were observed near Wildwood.
June 22-27 Episodic Event - Fish Kill in Sandy Hook Bay	Fish kill observed in Sandy Hook Bay along the shore from the Earle Naval Pier to Atlantic Highlands. An estimated 1,000,000 fish died, all species. Suspected cause is dissolved oxygen depression in the bay. Dead fish continually wash ashore during this time period.
June 23 LI Beaches - Rockaway to Robert Moses State Park	Water along the Long Island coast was very turbid. Red and brown tide present in Raritan Bay.
June 24 NJ Perpendiculars - JC 14, 27, MAS, 41, 53	Red and brown tide observed in Raritan Bay. Some slime/scum also present in Raritan Bay. Water along the north Jersey perpendiculars was clean.
June 25 NJ Perpendiculars - JC 61, 69, 75, 85	Dramatic increase in the low dissolved oxygen levels which were recorded on June 13 and 14.
	Water was bright green and streaky from Sandy Hook to Seaside. Possibly green tide.

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Sampling

June 27 NJ Perpendiculars - JC 14,
27, MAS, 41

Episodic Event - Woman
pricked by syringe on NJ
beach

July 4 *****
Episodic Event - Blood
vials and hypodermic
needle found in Newark
Bay

July 6 NJ Beaches - Sandy Hook
to Cape May

Episodic Event - 5 miles
of LI beaches closed

Observations

Jean Panaccione of Bergen-
field was pricked in the
chest by a syringe while
lying on the beach at Beach
Haven. She was tested for
AIDS and hepatitis and also
received a tetanus shot.

105 vials containing blood, and
one hypodermic needle washed up
on the shoreline of Newark Bay
in Bayonne, NJ.

Garbage slicks and brown tide
present in Raritan Bay.
Bloom caused by Nannochloris
atomus. Ring of scum in
Shark River Inlet. Mild
bloom of Nannochloris atomus
in Barnegat Bay. Heavy brown
algal bloom observed in
Delaware Bay. Gyrodinium sp.
was the organism responsible.

Scattered floatables were
observed from Sandy Hook to
Manasquan.

5 miles of Long Island beaches
were closed when 10 small, insulin
type syringes, 1 blood vial,
fireworks, empty crack vials
and other assorted debris washed
up. Beaches from Atlantic Beach
to Jones Inlet were closed.

Sampling

July 7

Episodic Event - LI
beaches close following
wash up of debris

Observations

Robert Moses State Park and
Fire Island National Seashore
are closed after wash up of
assorted debris. 15 syringes,
1, possibly 2, blood vials,
20-30 Q-tips, empty crack
vials, fireworks, and assorted
debris wash up on Robert
Moses. 3 syringes, 7 Q-tips,
empty crack vials, a dust
mask and assorted debris wash
up on Fire Island.

Beaches from Atlantic Beach
to Jones Inlet reopen.

July 8

Episodic Event - LI
Beaches close after
debris wash up

Jones Beach closed after 10
syringes and assorted debris
wash ashore. Rockaway Beaches
closed due to "medical waste"
and assorted floatables.

EPA briefs Congressman Downey
on the situation. Press conference
with Congressman Downey held
at 3:30pm at Jones Beach.

5:00pm - Robert Moses and
Jones Beach reopened after being
cleaned.

July 9-

11 *****
Episodic Event - Sewage
spill closes NJ beaches

A two block portion of Ocean
City Beach in Cape May County,
NJ is closed due to a sewage
spill which occurred on Saturday.

July 11

LI Beaches - Rockaway to
Smith Point County Park

Many dispersed floatable items
observed in the surf zone
from Rockaway to Smith Point.

Brown water and algal scum
were noted along the entire
length of Fire Island.

Sampling

July 11 cont.

Episodic Event - Major
discharge of raw sewage
occurs in Staten Island
waters

July 12

Episodic Event - NYC
closes 3.5 miles of
beach

July 13

NJ Beaches - Sandy Hook
to Peck Beach

Episodic Event - Sewage
contamination forces
closure of several NJ
beaches

July 13-
19

Episodic Event - Staten
Island beaches close

July 14

Episodic Event - Syringes
found on NJ beach

Observations

25 million gallons of raw
sewage is by-passed around
Staten Island's Port Richmond
STP due to a power failure.

NYC closes 3.5 miles of beach
in Brooklyn. Coney Island,
Manhattan and Brighton beaches
are closed due to Port Richmond
STP by-pass which occurred on
July 11.

Beaches in Asbury Park, Ocean
Grove, Avon-by-the-Sea and
Bradley Beach were closed due
to high fecal coliform counts
from sewage contamination.
Source of contamination is unknown.

Staten Island beaches close after
200 syringes wash ashore.

Two syringes found on a beach
in Belmar.

Beaches in Asbury Park, Ocean
Grove, Avon-by-the-Sea and
Bradley Beach remained closed.

NYC reopens Brooklyn beaches.

	<u>Sampling</u>	<u>Observations</u>
July 15	NJ Perpendiculars - JC 14, 27, MAS, 41, 53	No floatables observed. Water looked good.
		Beaches in Asbury Park remain closed. Ocean Grove, Avon-by-the-Sea and Bradley Beach reopen.
July 16	Sampling cancelled	Severe thunderstorms. Asbury Park remains closed.
July 16- 19	***** Episodic Event - Riis Park closes after debris wash up *****	Jacob Riis Park beach in Queens was closed after "medical waste" and assorted floatables washed ashore.
July 17	Sampling cancelled ***** Episodic Event - High fecal coliform densities close NJ beach *****	Severe thunderstorms. Asbury Park beaches remain closed.
		Ocean Grove Beach closed due to high fecal coliform densities.
July 18	LI Beaches - Rockaway to Shinnecock Inlet	Floatables and red tide off Coney Island. Miles of garbage slicks in upper and lower NY Harbor and off Coney Island. From Great South Beach to Smith Point County Park, there was brown tide and foamy scum: heaviest concentration at Cherry Grove. Brown slime also observed off Long Beach.
		Asbury Park and Ocean Grove beaches remain closed.

Sampling

July 19 NYB Bight - NYB 20-27,
32-35, 40-46

LI Perpendiculars -
LI 02

July 20 Sampling cancelled

July 21 Sampling cancelled

July 22 *****
Episodic event -
Fish kill in Sandy
Hook Bay

Observations

Floatables observed in the
NY Bight Apex near station
NYB 33. Floatables and red
tide observed in Raritan Bay.

Heavy thunderstorms.

Asbury Park beaches remain
closed. Source of contamination
still unknown. Ocean Grove
beach opened.

Heavy thunderstorms.

Asbury Park beaches remain closed.

Heavy thunderstorms.

Asbury Park beaches remain
closed. Source of fecal
coliform contamination still
unknown.

Large fish kill occurred in
Horseshoe Cove, Sandy Hook Bay.
An estimated 3,000 - 10,000
menhaden died.

	<u>Sampling</u>	<u>Observations</u>
August 3	***** Episodic event - Fish kill in Raritan Bay *****	
August 3	***** Episodic event - Hempstead, Long Island Beaches close following wash-ups *****	Beaches from Long Beach to Pt. Lookout closed following the collection of twelve (12) syringes and assorted floatation that washed ashore in early A.M.
August 3	Episodic event - Westchester Beaches thirty (30) closed	Due to wash-ups of medical debris and assorted floatation.
August 22	Telephone calls - Staten Islands & North Shore Long Island Beaches closed due to Bacterial counts	South & Midland Beach, Staten Island, Morgan Park & Manorhaven, Long Island, Center Port, Gold Star, Shirley Kaler's Pt., Skudder Park & Pathfinder Beach, Long Island.
August 23	Same Staten Island & Long Island Beaches closed due to Bacteria	South & Midland Beach, Staten Island, Morgan Park & Manorhaven, Long Island, Center Port, Gold Star, Shirley Kaler's Pt., Skudder Park & Pathfinder Beach, Long Island.
August 24	Same Beaches except for Center Port, Gold Star and Skudders Park reopened	Add Yaphanks Lake for Bacterial levels.
August 25	Episodic event - wash-up of debris at Sandy Hook, New Jersey. Under investigation. Same Long Island Beaches closed and same Staten Island Beaches closed	Barge sited offshore & photographed. Yellowish foamy material preceded debris.

	<u>Sampling</u>	<u>Observations</u>
August 26	Beach closure due to Bacterial count - Mamaroneck, Harbor, Westchester County. Same Staten Island/Long Island Beaches closed	High Coliform counts.
August 29	Same Staten Island/Long Island Beaches & Northport & Islip	High Coliform counts.
August 30	Same Staten Island/Long Island Beaches. Ocean City, New Jersey	High Coliform counts.
August 31	Same Staten Island/Long Island Beaches & Ocean City, New Jersey reopened	
Sept. 1	Same Staten Island/Long Island Beaches	
Sept. 2	Same Staten Island/Long Island Beaches	
Sept. 5-6	Beach Point Club Harbor Island, Mamaroneck & Yacht Club Shore Acres Point Club closed. Robert Moses Beaches closed (End-of-Season) except Beaches #2 and #3 which are open. Town of Hempstead & Nassau County Beaches are closed to the public after Labor Day. These Suffolk County Beaches are now closed for the Season. Skutter Beach, Center Point Yacht Club, Steer's Beach, Goldstar Battalion, Knollwood Yaphank, Shirley Beach and Fleets Cove	Due to Rainfall of Sunday.
Sept. 7	Westchester County Beaches reopened. No other Beach closings.	

	<u>Sampling</u>	<u>Observations</u>
Sept. 8	Larchmont Shore Club, Larchmont Manor Park & Huguenot Yacht Club (Westchester County) are the only Beaches open. All other Westchester County Beaches are now closed for the Season. Sandy Hook Beaches are open.	
Sept. 9	No change	
Sept. 12	All Westchester County Beaches are now closed until next Season. All areas beaches are now closed until next Season.	

GARBAGE WASHUPS (In Chronological Order)

(1) OCEAN COUNTY, MAY 27, 1987

- On May 27, 1987, large amounts of floatable and sewage derived materials (tampon applicators, condoms, sludge balls, etc.) washed up on County beaches.
On May 28, floatables continued to wash up, resulting in an uninterrupted 20 mile strand line of sewage related materials. The area impacted encompassed North Seaside to Barnegat Light.
- Public health threats due to the washup were minimal, despite the severe aesthetic problem. Water quality standards were not violated; however, the beaches were closed so that the municipalities could clean them.
- EPA implemented several actions in response:
 - > Helicopter overflight to visually determine water quality conditions from Point Pleasant to Island Beach State Park.
 - > Sludge barge tracking study to identify the presence, type, and quantity of floatables in the sludge, and to verify compliance with dumping permits.
 - > Samples of the sludge directly from the barges prior to departure.
 - Results of both of these efforts have been negative so far.
- Material was similar to that washed up in New Jersey in previous similar incidents.
 - > In addition, a large algae bloom die-off occurred at the same time and contributed to the problem by creating a scum line with tended to aggregate the floatables.

(2) NASSAU COUNTY, LONG ISLAND, JUNE 23, 1987

- On June 23, 1987, a large amount of floatables, including medical wastes and sewage, washed ashore. As a result, bathing beaches were closed.
 - > The County reported that the hospital wastes included discarded syringes with needles, vials, and tubing.

(3) OCEAN COUNTY & ATLANTIC COUNTY, AUGUST 13, 1987

- On August 13, 1987, approximately 50 miles of beaches from Manasquan to Barnegat Light were closed as a result of an unusually large amount of garbage, wood and medical wastes that were washed up. Most of the beaches were re-opened on August 16 after they were cleaned of debris.

(3) OCEAN COUNTY & ATLANTIC COUNTY (Cont'd)

- EPA, NJDEP, N.J. State's Attorney General's Office, and the U.S. Coast Guard are currently trying to determine who is responsible for the wastes washing up.

* * * * *

BEACH CLOSINGS (Not due to garbage washups)(1) ATLANTIC CITY, AUGUST 20, 1987

- On August 20, 1987, Atlantic City's five miles of beaches were closed due to high bacteria levels.
 - > NJDEP's regular weekly ocean samples show unacceptable levels of fecal coliform.
 - The state standards for fecal coliforms is 200 per milliliter of sea water. The area beaches had levels between 230 and 400.
 - > Both the City and the DEP are investigating several possible sources of pollution, including the boardwalk area and construction sites, for illegal hook-up and broken sewer lines.

(2) DEAL, N.J., August 17, 1987

- On August 17, 1987, a broken valve at the Ocean Township sewage pumping station sent several hundred thousand gallons of raw sewage into the ocean. As a result of the high fecal coliform levels, the beaches were closed for one day.

(3) SEASIDE HEIGHTS, N.J., SUMMER 1987

- The beach near the Casino Pier has been closed for most of the summer because of bird droppings in the water.
 - > This problem is similar to the problem on the beaches in Long Branch, NJ, last year.
 - > There is a large population of pigeons, seagulls, and starlings that roost under the pier. The birds roost from late afternoon to early morning and this when the highest bacteria readings are found.
 - The levels drop during the day when the birds are out feeding.

Water Observations, 1987

	<u>Sampling</u>	<u>Observations</u>
May 26	LI Beaches - Rockaway to Cedar Island Beach	Red tide in Raritan Bay
May 27	NJ Beaches - Sandy Hook to Barnegat	Brown scum in water from Long Branch to Bay Head with some floatables in areas. Floatables near main bathing beach at Island Beach State Park.
May 28	NJ Beaches - Lavallette to Beach Haven	Water was clear.
May 29	NJ Beaches - Sandy Hook to Island Beach State Park ***** Examination of wash up of digester sludge clean out material that occurred on May 27 *****	Heavy scum slicks in Sandy Hook Bay and in the ocean off Monmouth County, extending 7 miles offshore in some areas. Floatables a quarter mile off main beach at Sandy Hook and a half mile off Monmouth beach. On the beach, at Island Beach State Park, about a half mile south of the Governor's home were numerous tampon inserters, condom rings and small balls of organic material.
May 30	NJ Beaches - Sandy Hook to Island Beach State Park ***** . Large algal bloom *****	Sandy Hook Bay, Raritan Bay and an extensive area of ocean from Sandy Hook to Island Beach State Park was covered with brown and white scum. The scum was thickest in the bays and along the Monmouth County coast. Large amounts of floatables 6 to 7 miles off Spring Lake and 1 mile off Seaside.
June 1	NJ Perpendiculars - Long Branch to Seaside	Small areas of scum in ocean off Asbury Park and Manasquan. Floatables 9 miles off Bay Head.
June 3	NJ Beaches - Sandy Hook to Belmar	Light concentrations of scum in Sandy Hook Bay. Water along coast was clear.
June 8	LI Beaches - Rockaway to Shinnecock	Light scum and brown water off Long Beach. Floatables in lower Hudson Bay near Coney Island.

	<u>Sampling</u>	<u>Observations</u>
June 9	NJ Beaches - Sandy Hook to Barnegat	Water was clear.
June 11	NY Bight	Small area of floatables near Ambrose Light.
June 15	NJ Perpendiculars - Long Branch to Seaside	Water was clear.
June 16	LI Beaches - Rockaway to Cedar Island Beach LI Perpendiculars	Discolored water at Point Lookout, Hemstead Beach.
June 17	NJ Beaches - Sandy Hook to Cape May	Brownish water at Cape May.
June 18	NY Bight	Red tide in Raritan Bay. Some scum off Sandy Hook.
June 24	NJ Beaches - Sandy Hook to Beach Haven LI Beaches - Rockaway to Jones Beach	Red tide and patches of floatables in Raritan Bay. Sea lettuce at Atlantic Beach, LI. Brown area of water a quarter mile off Jones Beach.
June 25	NJ Perpendiculars - Long Branch to Seaside	Red tide and floatables in Raritan Bay. Murky water off Sandy Hook and Manasquan.
June 29	NY Bight LI Perpendiculars	Some floatables in Raritan Bay. Ocean water was clear.
June 30	LI Beaches - Rockaway to Shinnecock	Water from the center of Raritan Bay to the mouth was brown and contained floatables. Floatables off of Atlantic Beach and Long Beach. The water along most of the LI coast was turbid.
July 1	NJ Beaches - Sandy Hook to Lavallette	Water along coast was clear. Areas of scum in Raritan Bay.
July 6	NY Bight	Algae bloom 3-4 miles off Sandy Hook. Raritan Bay appeared murky.

	<u>Sampling</u>	<u>Observations</u>
July 7	LI Beaches - Rockaway to Cedar Island Beach	Raritan Bay appeared murky.
July 8	NJ Beaches - Sandy Hook to Cape May	Sandy Hook had red algae bloom. Manasquan Inlet to northern part of Island State Park had sea lettuce and floatables.
July 9	NJ Perpendiculars - Long Branch to Manasquan	Red tide in Raritan Bay. + Floatables and scum 1 mile off Sandy Hook. Remains of algae bloom visible north of Asbury Park.
July 11	NJ Perpendiculars - Bay Head to Strathmere	Red tide in Raritan Bay.
July 15	NJ Beaches - Sandy Hook to Cape May	Large amounts of sea lettuce near Strathmere.
July 16	LI Beaches - Rockaway to Shinnecock	Red tide in Raritan Bay.
July 17	NJ Perpendiculars - Long Branch to Seaside Heights	Red tide visible near Seaside. Floatables 5-7 miles offshore, north of Seaside.
July 18	NJ Perpendiculars - Barnegat to Strathmere	Water was clear.
July 23	NJ Beaches - Sandy Hook to Cape May	Water was clear.
July 23	NJ Perpendiculars - Atlantic City to Strathmere	Water was clear.
July 24	LI Beaches - Rockaway to Shinnecock Inlet	Water was clear.
July 28	LI Beaches - Rockaway to Shinnecock Inlet	Red tide off Staten Island. Water along LI looked clear. White scum observed in water at Smith Point County Park.

	<u>Sampling</u>	<u>Observations</u>
July 29	NJ Beaches - Sandy Hook to Strathmere	Sea lettuce in water near Strathmere. Some dolphins in water near Avalon.
July 30	NJ Perpendiculars - Long Branch to Seaside	Water was clear.
July 31	NJ Perpendiculars - Barnegat to Strathmere	There were floatables along the shore. Water was clear. *
August 1	NY Bight	Red tide and floatables off Staten Island. Bight area was clear. Sea lettuce observed from Barnegat to Beach Haven in the surf and on beach.
August 2	NJ Beaches - Deal to Barnegat	The water was a dark green color. A white greenish foam was near Belmar. Sea lettuce was observed from Seaside to Barnegat.
August 5	NJ Beaches - Sandy Hook to Cape May	Water was clear. Sea lettuce was observed from Asbury Park to Seaside.
August 7	NJ Perpendiculars - Long Branch to Seaside	Water from Long Branch to Manasquan out to a distance of 9 miles offshore looked murky. Some floatables off Bay Head from 1 to 5 miles offshore.
August 8	NJ Perpendiculars - Barnegat to Strathmere	Water was clear.
August 11	LI Beaches - Rockaway to Fire Island LI Perpendiculars	Red tide off Staten Island. From Long Beach to Point Lookout, there was a large amount of sea lettuce in the water. Water looked clear from Rockaway to Jones Beach.
August 13	NJ Perpendiculars - Long Branch to Barnegat	Large quantity of sea lettuce along Monmouth County beaches.
August 14	NJ Beaches - Long Branch to Beach Haven	Wash up of materials from Belmar to Beach Haven. Included sea lettuce, plastics, syringes and wood. Heaviest wash up at Island Beach State Park. Large amount of floatables in water at southern end of park. ?
	***** Beach wash up *****	High enough washout to sea all coastal debris
August 16	Highest tide of the year	

<u>Sampling</u>		<u>Observations</u>
August 15	NJ Beaches - Asbury Park to Beach Haven	Some floatables in the water at Manasquan Inlet and Seaside Heights
August 17	NY Bight	Floatables about 3 miles off western end of Jones Beach. Red algae bloom in Raritan Bay and extending in the ocean about 2 miles off Sandy Hook.
August 18	LI Beaches - Rockaway to Shinnecock	Redish water in the area of Moriches Inlet. Sea lettuce along most of the coast.
August 19	NJ Beaches - Sandy Hook to Cape May	Red tide in Raritan Bay. A few dead fish in Shark River near the inlet. Floatables and fish remains just south of Shark River Inlet. Sea lettuce at Point Pleasant, Barnegat and Harvey Cedars. Murky water from Atlantic City to Cape May. Green algae bloom detected at Peck beach.
August 20	NJ Perpendiculars - Long Branch to Seaside	Red tide in Raritan Bay. Water off NJ coast was clear. Dead crabs, mussels and starfish on beach at tip of Barnegat.
August 22	NJ Beaches, Barnegat Bay	Elgrass and sea lettuce along shore from Spring Lake to Island Beach State Park. Brown water in Raritan Bay. Brown water in Barnegat Bay; DO levels in bay were high.
August 23	NJ Beaches - Deal to Island Beach State Park	Sea lettuce at Point Pleasant. Water along other areas of the shore was clear.
August 24	NY Bight	Red tide in Raritan Bay. Brown water off Sandy Hook.

an old person

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